

App. Serial No. 10/541,415
Docket No.: DE030010US

In the Claims:

Please amend claim 1 as indicated below. This listing of claims replaces all prior versions.

1. *(currently amended)* An arrangement for determining the position of a magnetic-field-sensitive sensor unit in the magnetic field of a magnet arrangement having an at least substantially bar-shaped contour along an at least substantially rectilinear motion coordinate that extends parallel to a longitudinal axis of the at least substantially bar-shaped contour, in which the magnetic-field-sensitive sensor unit is intended to measure a component of the magnetic field which extends in a plane that is at least substantially parallel to the longitudinal axis of the at least substantially bar-shaped contour in a manner at least substantially perpendicular to this longitudinal axis and which is substantially isolated from other magnetic fields, and the magnet arrangement has a magnetic north pole in the a region of a first end of the at least substantially bar-shaped contour[,] and a magnetic south pole in the a region of a second end of the at least substantially bar-shaped contour, and a narrowing of the at least substantially bar-shaped contour in the central region extending between the north pole and the south pole.
2. *(original)* An arrangement as claimed in claim 1, characterized in that the narrowing of the at least substantially bar-shaped contour corresponds at least in sections to a shape that at least substantially follows the profile of an ellipse.
3. *(original)* An arrangement as claimed in claim 1, characterized in that the narrowing of the at least substantially bar-shaped contour corresponds at least in sections to a shape that at least substantially follows the profile of a cycloid.
4. *(previously presented)* An arrangement as claimed in claim 1, characterized in that the magnetic-field-sensitive sensor unit is designed with a Wheatstone bridge of magnetoresistive elements, the longitudinal direction of which extends at least substantially along the motion coordinate.

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5. *(previously presented)* An arrangement as claimed in claim 1, characterized in that the magnet arrangement is connected to a first body and the sensor unit is connected to a second body, in order to determine the position of the first body with respect to the second body along the motion coordinate.

6. *(original)* An arrangement as claimed in claim 5, characterized in that the first and second bodies are formed by parts of a motor vehicle.

7. *(original)* An arrangement as claimed in claim 6, characterized in that the first and second bodies are formed by parts of the internal combustion engine of a motor vehicle.

8. *(original)* An arrangement as claimed in claim 7, characterized in that the second body comprises part of a valve mechanism for the internal combustion engine of a motor vehicle, and the first body is designed with a part of the valve mechanism that can move with respect thereto.